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Micro-dosing Mindfulness and Wellness Messages into Pharmacology Classrooms Improves Pharmacy Students' Resilience

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Background: Research studies indicate that offering students wellness resources, such as mindfulness exercises, can improve student well-being. This study assessed the effect of a 10-week wellness intervention - in-class mindfulness sessions and weekly wellness messages - on pharmacy students' resilience and perceived stress.

Methods: First professional-year (P1) and second professional-year (P2) pharmacy students enrolled in the courses Introduction to Pharmaceutical Sciences (which covers foundational pharmacology concepts) and Principles of Drug Action II (which covers endocrine, autonomic, and cardiovascular pharmacology) were offered 3-minute mindfulness sessions at the beginning of each class session for ten weeks. In addition, students received a weekly email wellness message (designed to improve their physical, mental, and social wellness) during those ten weeks. The study was conducted in two student cohorts in the 2021-22 and 2022-23 academic years. Students' resilience and perceived stress levels were measured before and after ten weeks of exposure to wellness resources using the Connor-Davidson resilience scale-10 and perceived stress scale-10 to determine students' baseline (pre-intervention) and post-intervention scores. An unpaired t-test (for the 2021-22 cohort data) and a Wilcoxon matched-pairs signed rank test (for the 2022-23 cohort data) were used to compare the mean scores between pre-intervention and post-intervention, with a maximum score of 40 for resilience and perceived stress.

Results: Following the 10-week wellness intervention, P2 students in the 2021-22 cohort and P1 students in the 2022-23 cohort demonstrated significant increases in resilience scores (from 26.8±5.4 to 29.3±5.4; $p < .047$ in the 2021-22 cohort and from 24.9±5.0 to 27.3±4.2; $p < .023$ in the 2022-23 cohort). Although the mean resilience scores improved among P1 students in the 2021-22 cohort and the P2 students in the 2022-23 cohort, the increases were not statistically significant. On the other hand, a statistically insignificant reduction in perceived stress scores was observed among P1 and P2 students in both academic years. For instance, the perceived stress scores of P1 students decreased from 18.3±5.4 to 17.22±3.4, and the P2 students decreased from 18.0±5.1 to 16.7±5.1 in the 2022-23 cohort. Nevertheless, most P1 students (82.6% in 2021-22 and 78.6% in 2022-23) and P2 students (80.5% in 2021-22 and 84.9% in 2022-23) indicated that the in-class mindfulness sessions were helpful. Similarly, the vast majority of students (e.g., 67.9% of P1 students and 75.5% of P2 students in 2022-23) reported that the content shared in wellness messages was relevant and helpful.

Conclusions: Our findings indicate that offering wellness resources in the classrooms (i.e., offering mindfulness sessions and sharing wellness messages) promotes students' resilience. Furthermore, wellness resources offered by instructors are perceived positively by students to support their well-being. Thus, supporting faculty members to embed wellness activities in their classrooms and courses, even in microdoses, can promote student wellness.